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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/170,336	10/13/1998	JOHN STUART BEETESON	UK9-98-026	6676

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EXAMINER	
NGUYEN, KEVIN M	
ART UNIT	PAPER NUMBER
2674	

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/170,336	Applicant(s) BEETESON ET AL.	
	Examiner Kevin M. Nguyen	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 2/25/2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 14 is acceptable and a CPA has been established. An action on the CPA follows:

Drawings

2. Figure 1, 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This claim claims means for providing cut-off correction information to a one of said first or said second plurality of parallel conductors. At page 14, lines 17-25 the specification describes pixel data 508 are applied to DAC 602 which produces an analog voltage corresponding to the digital

input pixel data 508. Correction data 516 from non-volatile memory 510 are applied to a DAC 604 for adjustment of the gain and to a DAC 606 for the adjustment of the cut-off. The gain adjust DAC 604 modifies the reference voltage 608 applied to the DAC 602 by means of an analog addition circuit 610. The broadly describe means for providing cut-off correction information to a one of a first plurality of parallel conductors do not support the claimed invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art hereinafter AAPA in view of Nakamura et al. (U.S. Patent No. 5,818,403).

As to claim 1, AAPA teaches a magnetic matrix display which includes a cathode 20 (see figure 1, page 1, lines 16-21). AAPA fails to teach a first plurality of parallel row conductors and a second plurality of parallel column conductors arranged orthogonally to the row conductors; means for providing cut-off correction information to a one of said first of parallel conductors. However, Nakamura teaches an electron beam-generating apparatus which includes electron-emitting devices lines (X1, X2,...) and modulation electrodes (Y1, Y2,...) are arranged to form an XY matrix (or in rows and columns) with the electron-emitting device lines (see figure 1, col. 5, lines 25-29). In the figure 2, the

information signal is inputted divisionally at intervals of two rows of modulation electrodes three times. In each time, cut-off signals are inputted to the modulation electrodes to which information signals are not inputted (see col. 6, lines 13-17). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the X and Y driver circuits taught by Nakamura et al for the X and Y driver circuits disclosed in a matrix addressed display device of AAPA because this would improve high fineness, high sharpness, and high contrast of the image (col. 2, lines 49-52 of Nakamura et al).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Nakamura et al as applied to claim 1 above, and further in view of Buzak (US 5,036,317).

As to claim 2, AAPA and Nakamura et al teach all of the claimed limitations of claim 1, except for "means for providing gain correction information to a one of a first plurality of parallel conductors. However, Buzak teaches display system 40 having nine different output amplifiers 86, data driver 88 driving the amplifiers for different single ones of column electrodes 62 (see col. 12, lines 34-39). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the X and Y driver circuits taught by Buzak for the X and Y driver circuits disclosed in a matrix addressed display device of AAPA and Nakamura et al because this would improve a wide range of viewing of angles, high resolution, full gray scale, and good image contrast properties (col. 3, lines 15-17 of Buzak).

8. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Nakamura et al in view of Buzak as applied to claims 2 and 1 above, and further in view of Baldi (US 5,708,451).

As to claim 3, AAPA, Nakamura et al, and Buzak teach all of the claimed limitations of claims 2, 1, except for a nonvolatile memory. However, Baldi teaches a non-volatile memory (see abstract). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the additional non-volatile memory taught by Baldi for the matrix addressed display device of AAPA's, Nakamura's and Buzak's system because this would store video signal in digital or analog form.

As to claim 4, AAPA teaches the surface of the magnet 60 facing the phosphors 80 (page 1, line 25).

As to claim 5, Buzak teaches amplifiers 86 for different singles ones of column electrodes 62 (col. 12, lines 37-39), grid segment 150 receives an enabling voltage and grid segments 1652 and 154 receive a cut-off voltage, thereby forming electro beam 76' over the set 142 of column electrodes 62 (see col. 12, lines 57-61).

As to claim 6, Baldi teaches pixel's correction factors for compensating long term decline of luminance due to the phosphors ageing process (abstract).

As to claim 7, AAPA teaches an array of anodes 50 are formed on the surface of magnet 60 facing the phosphor 80. There is a pair of anodes 50 associated with each column of the matrix of pixel well 70 (page 1, lines 24-27). Baldi teaches pixel's correction factors for compensating long term decline of luminance due to the phosphors ageing process (abstract). It would have been obvious to a person of

ordinary skill in the art at the time of the invention to incorporate pixel's correction factors for compensating long term decline of luminance due to the phosphors ageing process taught by Baldi for a matrix addressed display of AAPA's system because this would compensate the nonuniformities of intrinsic luminance characteristics of a field emission type display (col. 5, lines 41-43 of Baldi).

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Nakamura et al in view of Buzak in view of Baldi as applied to claims 6, 3 and 1 above, and further in view of Tanaka et al(US 5,834,900).

As to claim 8, AAPA, Nakamura et al, Buzak, and Baldi teach all of the claimed limitations of claims 6, 3 and 1, except for temperature sensor. However, Tanaka et al teaches a field emission type display (FED) device having a temperature sensor (col. 6, line 31). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the additional temperature sensor taught by Tanaka et al for a matrix addressed display of AAPA's, Nakamura et al's, Buzak's, and Baldi's system because this would prevent a variation in luminance due to an increase in ambient temperature (col. 3, lines 21-22 of Tanaka et al).

10. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Nakamura et al in view of Buzak in view of Baldi as applied to claims 3 and 1 above, and further in view of Tanaka et al (US 5,834,900).

As to claims 9 and 10, AAPA, Nakamura et al, Buzak and Baldi teach all of the claimed limitations of claims 3 and 1, except for cut-off correction information varying according to the physical location of each of a second plurality of parallel conductors.

However, Tanaka et al teaches a FED which includes the cathode electrodes with respect to a cut-off voltage are deviated from a set point (see col. 5, lines 60-61), the cathode current is varied (10) with respect the column voltage Vc (see figure 1). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the X and Y driver circuits taught by Tanaka et al for the X and Y driver circuits disclosed in a matrix addressed display device of AAPA, Nakamura et al, Buzak, and Baldi because this would provide a different voltage of a constant level is held between gate voltage and cathode voltage irrespective of controlling of the drive voltage (col. 3, lines 61-63 of Tanaka et al).

As to claim 11, Tanaka et al teaches the anode current is exponentially varied with respect to the gate voltage (figure 6, col. 5, lines 45-46), and the cathode current is varied (10) with respect the column voltage Vc (see figure 1).

Response to Arguments

10. Applicant's arguments filed 2/25/2002 have been fully considered but they are not persuasive.

11. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-FRI from 9:00-5:00 with alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Examiner
Art Unit 2674

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600